REMARKS

This is in full and timely response to the Office Action mailed on May 15, 2006. Reexamination in light of the amendments and the following remarks is respectfully requested.

Claims 18-39 are currently pending in this application, with claims 18, 27, 28, 29, 34, and 35 being independent.

No new matter has been added.

Rejection under 35 U.S.C. §112

While not conceding the propriety of this rejection and in order to advance the prosecution of the above-identified application, claims 19 and 21 have been amended.

Withdrawal of this rejection is respectfully requested.

Rejection under 35 U.S.C. §101

The Office Action includes a rejection of claims 18-28 under 35 U.S.C. §101.

This rejection is traversed at least for the following reasons.

Claim 18 - Independent claim 18 is drawn to a *method of operating a data processing system*. See *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998). Also see, *Examination Guidelines for Computer-Related Inventions*, Official Gazette of the United States Patent and Trademark Office, Vol. 1300, No. 4, November 22, 2005.

Nevertheless, the Office Action fails to explain with particularly and clarity as to why method of operating a data processing system fails "to produce a real-world result" and is found to be nonstatutory subject matter, especially when claim 18 include the steps of:

providing an expression profile of a network,

generating network structures allowing said expression profile,

selecting network structures from said topology pool, adapting said parameters to said selected network structures, and computing said degrees of fitness,

storing said networks represented by triplets resulting from steps above in a triplet pool,

screening candidate networks from said triplet pool.

Clarification is respectfully requested.

Claim 27 - As a rule, computer programs embodied in a tangible medium, such as floppy diskettes, are patentable subject matter under 35 U.S.C. Section 101 and must be examined under 35 U.S.C. Sections 102 and 103. *In re Beauregard*, 53 F.3d 1583, 35 USPQ2d 1383 (Fed. Cir. 1995). Independent claim 27 is drawn to *a computer program embodied on a computer readable medium*. However, the Office Action fails to explain with particularly and clarity as to why a computer program embodied on a computer readable medium found to be nonstatutory subject matter.

Clarification is respectfully requested.

Claim 28 - Independent claim 28 is drawn to a *network estimation apparatus*. However, the Office Action fails to explain with particularly and clarity as to why a network estimation apparatus is found to be nonstatutory subject matter. See *Ex parte Logan*, 20 USPQ2d 1465 (Bd. Pat. App. & Inter. 1991).

Clarification is respectfully requested.

Rejection under 35 U.S.C. §102

Paragraph 6 of the Office Action includes a rejection of claims 18-23 and 25-28 under 35 U.S.C. §102 as allegedly being anticipated by U.S. Patent No. 5,148,513 to Koza et al. (Koza).

Paragraph 7 of the Office Action includes a rejection of claims 24-25 under 35 U.S.C. §103 as allegedly being unpatentable over Koza in view of U.S. Patent No. 5,761,381 to Arci et al. (Arci).

These rejections are traversed at least for the following reasons.

Claim 18 - Claim 18 is drawn to a method of operating a data processing system, the method comprising the steps of:

    providing an expression profile of a network, said network represented by triplets having a network structure, parameters, and a degree of fitness;

    generating network structures allowing said expression profile, said generated network structures being stored in a topology pool;

    selecting network structures from said topology pool, adapting said parameters to said selected network structures, and computing said degrees of fitness;

    storing said networks represented by triplets resulting from steps above in a triplet pool; and

    screening candidate networks from said triplet pool, said screened candidate networks being stored in a candidate triplet pool.

Claim 27 - Claim 27 is drawn to a computer program embodied on a computer readable medium comprising:

    code means adapted to perform all the steps of claim 18 when said program is run on a data-processing system.

Claim 28 - Claim 28 is drawn to a network estimation, apparatus comprising:

means for providing an expression profile of a network, said network represented by triplets having a network structure, parameters, and a degree of fitness;

means for generating network structures allowing said expression profile, said generated network structures being stored in a topology pool;

means for selecting network structures from said topology pool, adapting said parameters to said selected network structures, and computing said degrees of fitness;

means for storing said networks represented by triplets resulting from means above in a triplet pool; and

means for screening candidate networks from said triplet pool, said screened candidate networks being stored in a candidate triplet pool.

An Examiner's Note within the Office Action refers to page 4, lines 15-17, of the Applicant's specification for the meaning of the term "a network" (Office Action at page 4).

In response, page 4, lines 15-17, of the Applicant's specification relied upon by the Office Action is _not_ admitted prior art. Instead, this passage is found within the SUMMARY OF THE INVENTION portion of the specification as originally filed. Thus, the Office Action has impermissibly engaged in **_hindsight_** reconstruction by using the _Applicant's disclosure as a template_ to fill the gaps within the teachings of Koza.

Koza - Regarding Koza, Figures 3A and 3B are flow charts of the processes for the invention of Koza.

Koza arguably teaches that process 1300 starts by the step Create Initial Populations 1321 which creates (typically randomly) a number of populations containing a number of programs (Koza at column 23, lines 33-35).

Koza arguably teaches that in steps 1302-1305, a population is *designated as an evolving population*, and the remaining populations are designated as environmental populations (Koza at column 23, lines 35-52).

Koza arguably teaches that, after assigning and associating, Remove Entity(s) with relatively low fitness, step 1314 causes the removal of some of the less fit members of the evolving population (Koza at column 23, lines 60-64). Koza arguably teaches that step 1316, Select Entity with relatively high fitness values, picks at least one entity to use in the following operation (Koza at column 23, line 67 to 24, line 2).

Koza arguably teaches that the newly created entities are inserted *into the evolving population* at 1370 and the process returns to the termination test 1303 (Koza at column 24, line 67 to 24, line 2).

However, Koza fails to disclose, teach, or suggest screened candidate networks being stored in a candidate triplet pool.

In this regard, the Office Action fails to show the presence within Koza of a *topology pool*, a *triplet pool*, and a *candidate triplet pool*.

Arci - Arci arguably teaches a computer system using genetic optimization techniques.

Specifically, Arci arguably teaches that the genetic optimization agent maintains a pool of genotypes 20, representing a current generation of solutions to the problem in question (Arci at column 3, lines 11-13).

Arci arguably teaches that the genetic optimization agent includes a breeding process 22, which processes the genotypes in the pool 20, to produce a set of new genotypes 23 (Arci at column 3, lines 18-19).

Arci arguably teaches that the genetic optimization agent further includes a selection process 26 which selects the best of the genotypes (both from the genotype pool 20 and the new

genotype set 23), and places the selected genotypes in the genotype pool (Arci at column 3, lines 38-41).

In this regard, the Office Action fails to show the presence within Arci of a *topology pool*, a *triplet pool*, and a *candidate triplet pool*.

Withdrawal of these rejections and allowance of the claims is respectfully requested.

Newly added claims

The newly added claims are allowable at least for the reasons provided hereinabove.

Allowance of the claims is respectfully requested.

Conclusion

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone Brian K. Dutton, Reg. No. 47,255, at 202-955-8753.

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Dated: August 15, 2006   Respectfully submitted,

By_____
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